

CIC Week 4 Quiz

- Enterococci
- Environmental Gram-Negative Bacilli
- Fungi





“Despite the naysayers the overwhelming opinion in the infection prevention community is that _____ remains a primary means of preventing HAI.”

- A. Effective oral hygiene
- B. Handwashing
- C. Well paid nurses
- D. Exorcise



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- D. Regular exercise



Enterococci typically colonize the human gastrointestinal and biliary tracts; less commonly, they colonize the...?

- A. the oral cavity**
- B. the perineum**
- C. female genital tract**
- D. male urethra**
- E. the skin**
- F. All of the above**



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Arising primarily from (a/an) _____ background, the ubiquitous nonfermentative Gram-negative bacilli have minimal growth requirements and cause a wide array of opportunistic infections.

- A. Aquatic
- B. Gastrointestinal
- C. Soil based
- D. Zoonotic



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True or false:

***Candida* is a normal commensal of the human gastrointestinal, female genital tract, and integumentary system.**

- A. True
- B. False



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Of the approximately 38 species, the most common isolates encountered in the clinical setting are?

- A. Enterococcus gallinarum, Enterococcus avium**
- B. Enterococcus faecalis, Enterococcus faecium**
- C. Enterococcus avium, Enterococcus termitis**
- D. Enterococcus termitis, Enterococcus faecium**



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- D. **Enterococcus termitis, Enterococcus faecium**



For patients with enterococcal endocarditis, treatment options are...?

- A. **Daptomycin** is the gold standard treatment it binds to bacterial membranes and causes rapid depolarization
- B. **Vancomycin** inhibits cell wall synthesis by binding to the D-Ala-D-Ala terminal of the growing peptide chain during cell wall synthesis, resulting in inhibition of the transpeptidase
- C. **Tigecycline** is a glycylicycline agent derived from minocycline It is bacteriostatic and has a broad spectrum of activity against growth of resistant Gram-positive and Gram-negative pathogens. It was developed in the late 1980s and has been approved by the U.S. Food and Drug Administration (FDA) for the intravenous treatment of *E. faecium* infections.
- D. **Contingent on susceptibility profile of the isolate.** Specific antimicrobial therapy must be aggressive, using bactericidal rather than bacteriostatic agents. Antimicrobial susceptibility studies should be carried out for penicillin, ampicillin, vancomycin, quinupristin/dalfopristin, and linezolid.
- E. **None of the above**



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Strategies to decrease the incidence of IA fall include the following:

- A. decreasing the duration of neutropenia/corticosteroid use
- B. decreasing exposure of patients to conidia
- C. prophylaxis in high-risk patients.
- D. Emphasis should be placed on prevention, as infection carries a high mortality.
- E. All of the above



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The Hospital Infection Control Practices Advisory Committee (HICPAC) guidelines for hospitals to prevent VRE infections include:

- A. prudent, judicious vancomycin use by clinicians;
- B. facility-wide and informal education of staff regarding vancomycin resistance
- C. hand hygiene in conjunction with other control measures
- D. early detection and prompt reporting of vancomycin resistance in enterococci and other Gram-positive microorganisms
- E. implementation of appropriate infection control measures to prevent person-to-person transmission of VRE.
- F. All of the above



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True or false:

Resistance to antifungal agents is uncommon in fungi and not well documented.

- A. True
- B. False



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Daptomycin is a large cyclic lipopeptide that binds to bacterial membranes and causes rapid depolarization of membrane potential and is therefore the gold standard for VRE treatment.

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The fact that no single agent is entirely bactericidal against enterococci, compounded by the emergence of multidrug resistance to several classes of agents among VRE isolates, underlie the reality that enterococcal infections can be extremely difficult to treat and is one of the reasons that management of deep or systemic enterococcal infections in susceptible hosts often requires combination antimicrobial therapy.



The HICPAC guidelines conclude that it is reasonable to discontinue Contact Precautions when _____ VRE surveillance cultures are repeatedly negative in a patient who has not received antimicrobial therapy for several weeks.

- A. 6 or more
- B. 1 or more
- C. 3 or more
- D. 4 or more



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1. Enterococci are Gram-positive, catalase-negative...?

- A. nonspore-forming cocci that can exist singly, in pairs, or in chains. They grow under facultative aerobic conditions, with optimum growth occurring at 35 deg C
- B. spore-forming cocci. They grow under facultative anaerobic conditions, with optimum growth occurring at 35 deg C
- C. nonspore-forming cocci that can exist singly, in pairs, or in chains. They grow under facultative anaerobic conditions, with optimum growth occurring at 35 deg C
- D. nonspore-forming cocci that can exist in chains. They grow under facultative anaerobic conditions, with optimum growth occurring between 40-42 deg C.



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- C. nonspore-forming cocci that can exist singly, in pairs, or in chains. They grow under facultative anaerobic conditions, with optimum growth occurring at 35 deg C
- D. nonspore-forming cocci that can exist in chains. They grow under facultative anaerobic conditions, with optimum growth occurring between 40-42 deg C.



True or False:

Enterococcus faecalis is associated with approximately 90 percent of human enterococcal infections.

- A. True
- B. False, it's *Enterococcus faecium*!



True or False:

Enterococcus faecalis is associated with approximately 90 percent of human enterococcal infections.

A. True

B. False, it's *Enterococcus faecium*!

E. faecium is associated with as many as 15 percent of such infections



***Pseudomonas* are _____ bacilli commonly found in moist environments. They constitute the most common healthcare-associated pathogens among the NFBs.**

- A. Anaerobic, non motile gram-positive
- B. Aerobic, motile, Gram-negative
- C. Aerobic, motile, Gram-positive
- D. Anaerobic, motile, Gram-negative



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he slang term "waterbugs" is often used to describe these organisms due to their adaptation to proliferating in relatively pure water.

- A. Giardia
- B. Legionellosis
- C. Aspergillus
- D. Pseudomonads



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True or False:

***Burkholderia cepacia* (formerly *Pseudomonas cepacia*) is most frequently noted as a cause of respiratory tract infections in patients with cystic fibrosis.**

- A. True
- B. False



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The patients at highest risk of infection from a gram-negative bacilli

- A. Neonates
- B. Sex workers or those involved in high risk sexual activities
- C. hospitalized or institutionalized patients compromised by age, surgery, chemotherapy, or device use
- D. Individuals living in congregate housing such as college students.



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What does NFB stand for in regards to gram negative environmental bacilli?

- A. *Nosocomial fermentative bacilli*
- B. *Non-filament forming bacilli*
- C. *Neuro-fibrometastatic bacilli*
- D. *Nonfermentative bacilli*



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The concept of an incubation period is not as useful in evaluating HAI outbreaks or epidemics for NFB as for many other pathogens because...?

- A. NFB's are part of the natural flora of most individuals and only become infectious during immune suppression.
- B. Infection may result from colonization that happened either recently or remotely.
- C. Transmissibility between humans is still under debate.
- D. Incubation periods are crucial in evaluating HAI outbreaks for NFBs and should be monitored closely.



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True or False:

Clinicians frequently must rely on combination therapy when treating *Pseudomonas*, *Acinetobacter*, and other glucose nonfermentative bacilli empirically because antimicrobial resistance is common.

- A. True
- B. False



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The most frequently isolated yeasts are _____, of which there are 80 species.

- A. Aspergillus
- B. Exserohilum rostratum
- C. Candida
- D. Saksenaea vasiformis



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Prevention of healthcare-associated *Candida* infections can be addressed by considering each risk factor for infection including?

- A. Judicious use of antibiotics
- B. Central venous catheters should also be used only when indicated
- C. Oral nutritional solutions should be used whenever possible.
- D. If parenteral nutrition is necessary, total parenteral nutrition solutions should be mixed in the pharmacy in laminar flow hoods using aseptic technique; bags should not be respiked; and solutions containing lipids should have a hang time of no more than 12 hours.²⁹
- E. Those in ICUs with high rates of candidemia, and those with high risk solid tumors or BMT should receive antifungal prophylaxis, usually with an azole.
- F. Fluconazole prophylaxis is recommended particularly among neonates born before 27 weeks' gestation or those weighing less than 1,000 grams.
- G. Among patients with HIV and recurrent mucocutaneous candidiasis, fluconazole has been shown to decrease the number of recurrences.
- H. All of the above



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For diseases that occur sporadically, like invasive fungal infections caused by an unusual fungal agent, when _____ or more cases of an infection are detected, an outbreak should be suspected.

- A. 2
- B. 3
- C. 5
- D. 1



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Infections with this fungi show up as fluoresces yellow-green under a Wood's lamp.

- A. *Candida*
- B. *Aspergillus*
- C. *Microsporum canis*
- D. *Scedosporium*



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The gold standard of therapy previously was high-dose (1.0 to 1.5 mg/kg/d) intravenous AmB deoxycholate.

Now, there is a new drug that is the first drug of choice, which is it?

- A. Itraconazole, an orally available azole
- B. Lipid formulations of AmB
- C. Posaconazole, a broad-spectrum triazole related to itraconazole.
- D. Voriconazole, available both orally and intravenously



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True or false:

Most molds are ubiquitous in nature, making exposure unavoidable.

- A. True
- B. False



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- A. True
- B. False